

REMARKS:

Claims 1-19 and 21-23 are pending in the application; claims 1, 8, 18, and 22 are independent claims. Applicants thank the Examiner for indicating that claims 21 and 23 are allowed. Remaining claims 1-19 and 22 stand rejected. Applicants respectfully request entry of the Amendment submitted on February 13, 2007, a copy of which is attached hereto, before consideration of the present Response. No new amendments are presented in this response, which is accompanied by a Request for Continued Examination.

Claims 1-3 and 7 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,439,699 to Brende et al. ("Brende"). Claims 8-10 and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,157,100 to Mielke (hereinafter "Mielke"). Claim 22 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,734,209 to Halliday (hereinafter "Halliday").

Claims 4-6, which depend from claim 1, claims 11, 12, which depend from claim 8, and claim 19, which depends from claim 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brende in view of U.S. Patent No. 3,149,255 to Trench ("Trench"). Claims 13 and 14, which depend from claim 1, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brende in view of U.S. Patent No. 5,909,066 to Nanba et al. ("Nanba"). Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brende in view of Nanba and Trench.

Rejection of claims 1-3 and 7 under 35 U.S.C. §102(b)

Applicants thank the Examiner for the comments provided in the Advisory Action to clarify the issues at hand. In the Advisory Action, the Examiner states in reference to Brende, that "it is well-known in the art ...to utilize the surface of the inner core 14 as a bearing surface" and that "[t]he coil bobbin 37 must slide on the surface of the inner core 14. The coil bobbin can not be floated within the space."

Applicants kindly refer the Examiner to the Remarks provided in Applicants' February 13, 2007 Amendment, pp. 8-9, a copy of which is submitted herewith for entry and consideration. In addition, Applicants respectfully submit, contrary to the Examiner's statements

in the Advisory Action, that it is not inherent that the inner surface of the coil former of Brende provides a (first) bearing surface and/or that an outer surface of inner core 14 forms a (second) bearing surface. Brende is entirely silent with regard to bearing surfaces. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d. 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (emphasis added). Though Applicants will not speculate as to what bearing surfaces may have been contemplated by Brende, many options are known in the art, including solid contact bearings that could be mounted in various locations along an axis of travel of a moving part, and air bearings, which would prevent any surface-to-surface contact between moving parts. Accordingly, Brende does not teach that either surface, inner surface of bobbin 37 or outer circumferential surface of inner core 14, is *necessarily* a bearing surface, as required to establish inherency.

Moreover, Applicants respectfully submit that Brende actually teaches against the coil former 35 sliding on the surface of inner core 14 as suggested by the Examiner, because an air gap is indicated in Figure 2 between the coil former 35 and the inner surface of core 14. Consequently, not only is it not inherent that bobbin 37 slide on the surface of inner core 14, but is apparently not even contemplated by Brende.

In addition, it is quite clear that the "outer circumferential surface of [inner core] 14 between walls 16," which is asserted by the Examiner to be a (second) bearing surface is not in the form of a sleeve, defined, for example, in accordance with "Merriam-Webster on-line dictionary," <http://www.m-w.com/> as "a: a tubular part (as a hollow axle or a bushing) designed to fit over another part b: an open-ended flat or tubular packaging or cover." By definition, a sleeve is a tubular cover that fits over another generally tubular part, not under or inside a part. The outer surface 14 in Brende is clearly located *inside* coil form 37 and is not surrounding another generally tubular part. In addition, one skilled in the art would not choose magnetically permeable iron as a bearing layer. Consequently, Brende does not disclose or suggest a bearing

surface in the form of a sleeve, or a bearing surface comprising a material that has a relative magnetic permeability of greater than 2.0 as recited in claim 1.

Furthermore, contrary to the Examiner's assertion in the Advisory Action, Halliday does not teach or suggest the surface of the coil 32 as a bearing surface. To the contrary, Halliday teaches that the surface of a coil 32 is not an acceptable bearing surface. The stator coils in Halliday are encapsulated in a "non-conductive highly wear-resistant protective adhesive covering" (column 11, lines 48-51), so that "bearings 65-68 engage the adhesive coating on the coil 32 to permit substantially friction-free movement" of the mover (column 13, lines 7-12). Accordingly, Halliday also teaches against inner magnetic core 14 in Brende as a bearing surface in that Halliday specifically provides bearings 65-68 which prevent the magnets 20-22 in Halliday from acting as bearing surfaces (figure 2; column 13, lines 7-12). Accordingly, Halliday teaches against the coil bobbin 37 and inner core 14 being suitable bearing surfaces, and adds nothing to correct the deficiencies of Brende. Halliday does not disclose or suggest a bearing surface in the form of a sleeve having a magnetic permeability greater than 2.0.

Accordingly, at least because Brende, which is silent about bearing surfaces, provides no teaching of a bearing surface in the form of a sleeve either directly or inherently, Brende can not anticipate, either directly or inherently, the motor as recited in claim 1. Furthermore, none of the cited references, including Halliday, alone or in combination, discloses or suggests a bearing surface in the form of a sleeve having a magnetic permeability greater than 2.0. At least for these reasons, claim 1 and claims dependent therefrom, including claims 2, 3 and 7, are patentable over the cited art, including Brende.

Rejection of claims 8-10 and 18 under 35 U.S.C. §102(b)

The Examiner also maintains the rejection of independent claim 8 and claims 9-10 dependent therefrom, and independent claim 18 as being anticipated by Mielke. Applicants kindly refer the Examiner to the Remarks provided in Applicants' February 13, 2007 Amendment, pp. 9-11, a copy of which is submitted herewith for entry and consideration. In addition, Applicants respectfully submit, contrary to the Examiner's statements in the Advisory Action, that the inner surface of coil bobbin 10 in Mielke is not inherently a bearing surface for supporting axial movement between the coil bobbin 10 and the magnets 6.

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.'" 169 F.3d 743, 745 (emphasis added).

As provided in the February 13, 2007 response to final Office action, Mielke discloses a linear drive motor 4 which includes permanent disc-shaped magnets 6 and soft-magnetic disks 7. Disks 7 are adhesively bonded to and of the same diameter as permanent magnets 6 (see column 2, lines 26-38, and Figure 2). A coil former 10 is mounted in an annular gap 9 between the inner surface of the casing 8 and the magnets in an "axially displaceable manner" (see column 2, lines 39-46). Mielke is silent about a first or second bearing surface layer, in particular, a (second) bearing surface layer of which a portion thereof is magnetically saturated by a magnetic field of the second magnet (permanent magnet 6) as recited in claim 8, or anisotropic in its magnetic permeability as recited in claim 18.

To establish inherency, it must be shown that the coil former 10 and disk 7 *necessarily* provide bearing surfaces, as asserted by the Examiner. The mere possibility that "a certain thing *may* result" is insufficient to establish inherency. Applicants respectfully submit that the Examiner has failed to meet this burden, because it has not been demonstrated that Mielke, which is silent regarding bearing surfaces, discloses any surface that *must necessarily be* a bearing surface. Indeed, as Applicants have discussed herein, as well as in the February 13, 2007 response, the cited art, namely Halliday, teaches against a coil bobbin serving as a bearing surface (Halliday teaches encapsulating the stator coils with epoxy to provide a bearing surface layer) and against a magnet serving as a bearing surface (Halliday provides non-conductive bearings 65-68 to prevent contact with the magnets). Accordingly, Mielke does not anticipate claims 8 and 18 and claims dependent therefrom, either directly or inherently. Furthermore, none of the cited references, alone or in combination, discloses or suggests a bearing surface layer of which a portion thereof is magnetically saturated by a magnetic field of the second magnet (permanent magnet 6) as recited in claim 8, or anisotropic in its magnetic permeability as recited in claim 18. Accordingly, claims 8 and 18 are patentable over the cited art, including Mielke.

Furthermore, even if the references were combined, the device as claimed on claims 8 and 18 could not result, since neither Halliday nor Mielke discloses or suggests a bearing layer surface that can be magnetically saturated or that has anisotropic permeability. At least for these reasons, independent claims 8 and 18 and claims dependent therefrom are patentable over the cited prior art.

Rejection of claim 22 under 35 U.S.C. §102(b)

Turning to claim 22, the Examiner has also maintained his rejection of this claim as being anticipated by Halliday. In particular, the Examiner asserts that the claim as written allows the sleeve to fit over the entire *inner* circumferential surface of a cylindrical magnet, which, according to the Examiner, is disclosed in Halliday. Applicants amended claim 22 in the Amendment dated February 13, 2007, submitted herewith for entry and consideration, in a sincere effort to clarify that the sleeve is assembled *over* the stack of magnets to form a shaft. In light of the amendment, Applicants submit that independent claim 22 and claims dependent therefrom are also patentable over the cited prior art.

Rejection of claims 4-6, 11, 12, 13-17 and 19 under 35 U.S.C. §103(a)

Claims 4-6, which depend from claim 1 are rejected over Brende in view of Trench. Furthermore, claims 13 and 14, which depend from claim 1 are rejected over Brende in view of Nanba; claims 11, 12, which depend from claim 8, and claim 19, which depends from claim 18 are rejected over Brende in view of Trench; and claims 15-17, which depend from claim 1 are rejected over Brende in view of Nanba and Trench.

At least in light of the dependency of claims 4-6, and 13-17 from claim 1 and further in view of the afore-mentioned remarks (and those submitted with Applicants' Amendment dated February 13, 2007) regarding the patentability of claim 1 over Brende, Applicants submit that claims 4-6, and 13-17 are also patentable over the cited art.

Turning to the rejection of claims 11, 12 and 19, the Examiner asserts that Brende contains all of the limitations of the invention, and that Trench shows the shaft (24); the second bearing surface layer (18) being located over at least a portion of the shaft; and the second magnet (17) located within the shaft of claim 19, and that Mielke shows the saturated and

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unsaturated portions. Applicants respectfully disagree that Brende teaches all of the limitations of claims 11, 12 and 19.

As discussed above in reference to the rejection of claim 1 over Brende, Applicants respectfully disagree that Brende, which is silent about bearing surfaces, discloses or teaches that the outer surface of core 14 or that coil bobbin 37 is a bearing layer. Likewise, as discussed above, Mielke is also silent regarding its teaching of bearing surfaces. Furthermore, neither Trench nor Mielke cure the deficiencies of Brende in this regard. At least for these reasons, claims 11, 12 and 19 are also patentable over the cited prior art.

CONCLUSION

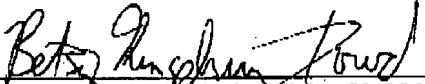
Applicants respectfully request entry of this Response and entry of the Amendment dated February 13, 2007 submitted herewith along with a Request for Continued Examination and reconsideration and allowance of the pending claims. In light of the foregoing, Applicants respectfully submit that all claims are now in condition for allowance.

Applicants believe that no fees are necessitated by the present Response. However, in the event that any fees are due, the Commissioner is hereby authorized to charge any such fees to Deposit Account No. 06-0923.

If the Examiner believes that a telephone conversation with Applicants' attorney would expedite allowance of this application, the Examiner is cordially invited to telephone the undersigned attorney at the number provided below.

Date: May 14, 2007

Respectfully submitted for Applicants,



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